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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,603	10/01/2003	Anatoliy Sorokin	28569/39347	7955

4743 7590 04/19/2005

MARSHALL, GERSTEIN & BORUN LLP
233 S. WACKER DRIVE, SUITE 6300
SEARS TOWER
CHICAGO, IL 60606

EXAMINER

LIN, ING HOUR

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/676,603

Applicant(s)

SOROKIN ET AL.

Examiner

Ing-Hour Lin

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1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-9 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yerrick in view of Cowan.

Yerrick (col. 2, lines 69+) teaches the flexible composition of mixture for manufacturing a sealing extruding clay rope 11 for sealing interfaces 13 between mold parts 15 17, comprising: clay such as kaolinite (col. 3, lines 27+), water in an amount of 8-20% by weight and hygroscopic agent such as starch binder in an amount of 0.25 – 5% in weight (col. 3, lines 68+).

Yerrick fails to teach the use of reinforcing fibers. However, Cowan (col. 1, lines 56+) teaches the use of adding water-wettable cotton fibers to foundry mold and core sand, wherein the cotton fiber having length (col. 6, lines 10+) less than 100 mesh (0.15mm) and

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0.25% to 4% in weight of sand (col. 7, lines 10+). Further, Cowan teaches the cotton fiber in a foundry sand binder having a composition of smectite clay (col. 8, lines 24+) including sodium and /or calcium bentonite for the purpose of improving flowability, strength and minimizing smoke and /or fumes on metal casting (col. 1, lines 56+). It would have been obvious to one having ordinary skill in the art to provide Yerrick the use of an amount of reinforcing fibers as taught by Cowan in order to effectively improve the quality clay rope between mold parts during casting metal in the mold parts.

4. Claims 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yerrick in view of Cowan as applied to claims 1-9 and 16-17 above, and further in view of Browne.

Yerrick in view of Cowan fails to teach the use of an upper and lower mold parts in casting a metal part in a cavity. However, Browne (col. 7, lines 12+) teaches the use of the use of an upper and lower mold parts formed from water-soluble binder and silica sand in casting a metal part in a cavity for the purpose of precision casting. It would have been obvious to one having ordinary skill in the art to provide Yerrick in view of Cowan the use an upper and lower mold parts in casting a metal part in a cavity as taught by Browne in order to effectively perform a precision casting using a clay rope disposed between the upper and lower mold parts during casting metal in the mold parts.

With respect to claim 11, Yerrick in view of Cowan as applied to claims 1-9 and 16-17 above, and further in view of Browne fails to teach the use of recycling the flexible composition (clay rope). However, the use of recycling the flexible composition (clay rope) into sand, water and binder would have been obvious to one having ordinary skill in the art in order to reuse the

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foundry material because sand, water and binder in the flexible composition (clay rope) are reusable.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ing-Hour Lin whose telephone number is (571) 272-1180. The examiner can normally be reached on M-F (8:00-5:30) Second Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

I.H.L.

I.-H. Lin

4-15-05

KEVIN KERNS
PRIMARY EXAMINER

Kevin Kerns 4/17/05